

## ORIGINAL ARTICLES

# Support for tobacco control initiatives among physicians and dentists who treat adolescent patients\*

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### Abstract

**Objective** – To survey physicians and dentists who treat adolescent patients about their support for and involvement in community public health initiatives to reduce tobacco use among minors.

**Design** – Pediatricians, family practitioners and dentists across Connecticut were asked their views about eight policy options to control tobacco.

**Subjects** – Questionnaires were distributed to 674 practitioners; 443 responses (66%) were analysed.

**Major outcome measures** – Personal attributes of respondents, characteristics of their practices, their support for eight tobacco control policies, and their personal involvement in community control activities.

**Results** – Respondents favoured measures to control access of adolescents to tobacco. Mandatory tobacco prevention curricula in schools, higher tax on tobacco sales, and prohibiting tobacco advertising in public places were supported by more than 75% of respondents. Significant support was expressed for prohibiting tobacco sales through vending machines (68%), fining merchants who sell tobacco to minors (67%), limiting point of sale for tobacco (63%), and earmarking tobacco tax revenues to support prevention programmes (58%). Physicians were more likely than dentists to express support for these initiatives. Practitioners who routinely counsel adolescents about smoking were more likely to express definite support for tobacco control measures compared with those who counsel young patients infrequently. Personal involvement by these practitioners in community activities to control tobacco was negligible.

**Conclusion** – Physicians and dentists can be invaluable constituents in our effort to control access of adolescents to tobacco products. These findings reveal areas where further professional education and involvement in community tobacco control activities may be beneficial.

(Tobacco Control 1994; 3: 208-212)

### Introduction

Intense warnings over the past 30 years about the hazards of tobacco have diminished but not

curtailed its use. One in six of our nation's children risk becoming regular smokers, and one-quarter of them, or five million individuals, will die unnecessarily from their addiction.<sup>1</sup> Recent surveys relying upon self-reported prevalence of smoking among adolescents reveal that two-thirds of 9th graders have previously tried cigarettes and that 8-16% of persons in grades 9-12 are termed frequent users (ie, usage on at least 20 of the 30 days preceding the survey).<sup>2</sup>

Clearly, smoking is not a matter of free choice. The insidious effects of marketing tobacco to young, vulnerable consumers are established.<sup>3-6</sup> Although laws restricting the sale of tobacco to minors were in place in 46 states and the District of Columbia,<sup>7</sup> illegal sale of cigarettes to minors was estimated to exceed 255 million packs in 1991.<sup>8</sup> Such ready availability of cigarettes<sup>9,10</sup> helps produce 3000 young smokers every day. By the time those smokers recognise the harmful effects of their behaviour, most will have difficulty quitting.

Physicians and dentists have significant clinical responsibilities helping young adults avoid tobacco.<sup>11,12</sup> They have frequent contact with these patients and often serve as powerful role models for appropriate health practices.<sup>13</sup> The American Medical Association's *Guidelines for Adolescent Preventive Services* (GAPS) recommend annual health guidance of persons between the ages of 11 and 21 about avoiding tobacco and other abusable substances and screening such patients each year about cigarette use.<sup>14</sup>

Health care providers have equally important, albeit less well-defined, roles in shaping opinion and advancing public policy to establish a tobacco-free environment. *Healthy People 2000* objectives call for communities to establish comprehensive tobacco control plans, provide curricula for tobacco use prevention in all elementary and secondary schools, curtail tobacco product advertising to which adolescents may be exposed, and enact laws prohibiting sale and distribution of tobacco to persons younger than age 19.<sup>1</sup> Their knowledge and experience, along with pledges of objectivity and altruism,<sup>15</sup> make physicians and dentists credible advocates for control measures.

This study surveyed physicians and dentists who treat adolescent patients about their support for and involvement in community public health initiatives to reduce tobacco use

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among minors. The analysis increases our understanding of the role these practitioners can and do play in the social control of cigarette use.

### Methods

During Spring 1992, samples of pediatricians ( $n = 156$ ), family practitioners ( $n = 261$ ) and dentists ( $n = 257$ ) from across Connecticut were sent a brief questionnaire to gauge their support for eight specific options to control access of minors to tobacco and to measure their personal involvement in tobacco control efforts. Roughly a third of pediatricians and general dentists at practice in the State and two-thirds of family physicians were contacted using membership rosters provided by the respective state associations.

The initial mailing yielded 354 (52%) responses. A follow-up request to 320 non-respondents produced an additional 89 replies. Usable information was obtained from 443 individuals; 105 (65%) pediatricians, 172 (66%) family practitioners, and 166 (65%) dentists. Initial and follow-up respondents, as well as their responses, were similar and were combined for the analysis. Unfortunately, it was not possible to compare survey responders with non-responders or non-members of professional organisations.

The questionnaire measured personal attributes of respondents and characteristics of their practices, their smoking histories, their perceptions of how regularly they counsel adolescents about tobacco (ie, always, frequently, occasionally, never), and their intention to support specific policies to control access of minors to tobacco. Eight options proposed or in place around the country<sup>16</sup> were examined: *a*) require tobacco use prevention curricula in schools, *b*) require tobacco sales tax to be allocated for tobacco use prevention programmes, *c*) increase tax on sale of tobacco products, *d*) ban advertising of cigarettes from public areas, *e*) prohibit tobacco companies from sponsoring sports or cultural events, *f*) limit points of sale of all tobacco products in a similar way to that done for alcohol, *g*) prohibit sale of tobacco products through vending machines, and *h*) impose fines on merchants who sell tobacco to minors. For every option, respondents could reply that they would definitely support, would probably support, or would not support such an initiative for their community.

Respondents also were asked whether they had undertaken personal initiatives within the previous 12 months to support community public health efforts to control tobacco. Specific probes concerned such activities as: *a*) making monetary contributions to smoking prevention programmes, *b*) avoiding purchase of products or investments related to tobacco companies, *c*) obtaining information or attending programmes on how to counsel patients to avoid tobacco use, *d*) addressing school children on tobacco and health, *e*) contacting legislators and other public officials to express support for tobacco control efforts, *f*) writing

commentaries in local newspapers about tobacco use, and *g*) signing petitions on tobacco control.

Calculation of descriptive and inferential statistics was accomplished using established statistical software.<sup>17</sup>

### Results

As a group, respondents were predominately male (86%); most reported never smoking (64%) and the median years in practice was 14 years. Forty-two per cent of respondents worked in solo practices, an additional 44% worked in private group practices, and the remainder (14%) worked in other settings (eg, hospital clinics, health maintenance organisations, etc). Among those reported to be in private practices, dentists were more likely than physicians to be solo practitioners (62% *vs* 38%) and to have more years in practice (18.8 *vs* 15.9 years).

Generally, survey respondents favoured proposed measures to control access of adolescents to tobacco (see table 1). Three of every four individuals expressed definite support for mandatory tobacco prevention curricula in schools (77%), higher tax on tobacco sales (77%), and prohibiting tobacco advertising in public places (76%). Somewhat fewer, although still significant majorities of respondents, supported prohibiting tobacco sales through vending machines (68%), fining merchants who sell tobacco to minors (67%), limiting point of sale for tobacco (62%), and earmarking tobacco tax revenues to support prevention programmes (58%). Only one control option, prohibiting tobacco companies from sponsoring cultural or athletic events, failed to gain support from a majority of respondents (48%). For seven of the eight options considered, only about one in 10 respondents indicated an intention *not* to support particular control options. The exception, prohibiting tobacco companies from sponsoring sports or cultural events, was opposed by one in four respondents.

Physicians, as a rule, were less equivocal than dentists in expressing their support for the various control initiatives. Six of eight comparisons between specialists revealed significant differences in attitude. For example, approximately two-thirds of pediatricians and family practitioners indicated they would definitely support a policy requiring tobacco tax revenues to be allocated for prevention programmes, while only 47% of dentists responded in that way. More than 80% of physicians indicated that they definitely supported efforts to ban tobacco advertising from public places, whereas only 65% of dentists intended to support such a measure. Similarly, substantially more physicians than dentists endorsed policies intended to reduce cigarette availability by limiting points of sale in a similar way to that done for alcoholic beverages (69% *vs* 52%, respectively) or prohibit distribution of tobacco through vending machines (75% *vs* 57%, respectively). A majority of physicians (57%) indicated they would sup-

Table 1 Percentage of respondents expressing intent to support tobacco control policies by selected characteristics of respondents

Proposed control measure	Specialty		Practice arrangement		Years in practice		Smoking history		
	Total (n = 443)	Dentist (n = 167)	Physician (n = 276)	Solo (n = 186)	Group (n = 195)	1-14 (n = 215)	≥ 15 (n = 198)	Ever (n = 160)	Never (n = 268)
Higher sales tax									
Definitely would support	77	72	80	71	80	81	72	72	79
Probably would support	16	20	14	18	15	14	19	18	15
Would not support	7	8	6	11	4	5	10	10	5
		(χ <sup>2</sup> = 3.6; n.s.)†		(χ <sup>2</sup> = 6.8; p = 0.03)		(χ <sup>2</sup> = 5.9; p = 0.05)		(χ <sup>2</sup> = 4.1; n.s.)	
Allocate tax for prevention									
Definitely would support	58	47	65	53	61	60	56	51	62
Possibly would support	32	40	27	35	30	30	33	37	29
Would not support	10	12	8	12	9	10	10	11	9
		(χ <sup>2</sup> = 12.0; p < 0.01)		(χ <sup>2</sup> = 2.8; n.s.)		(χ <sup>2</sup> = 0.6; n.s.)		(χ <sup>2</sup> = 4.1; n.s.)	
Ban advertising from public areas									
Definitely would support	76	65	83	69	81	78	74	73	78
Possibly would support	14	20	11	17	13	17	12	14	15
Would not support	9	15	6	14	6	5	14	13	7
		(χ <sup>2</sup> = 18.3; p < 0.01)		(χ <sup>2</sup> = 10.5; p < 0.01)		(χ <sup>2</sup> = 10.1; p < 0.01)		(χ <sup>2</sup> = 3.6; n.s.)	
Limit point of sale									
Definitely would support	62	52	69	53	69	66	59	52	68
Possibly would support	23	26	21	26	21	22	23	27	21
Would not support	14	21	10	20	10	12	18	21	11
		(χ <sup>2</sup> = 14.2; p < 0.01)		(χ <sup>2</sup> = 11.6; p < 0.01)		(χ <sup>2</sup> = 3.9; n.s.)		(χ <sup>2</sup> = 12.2; p < 0.01)	
Fine those who sell to minors									
Definitely would support	67	62	70	65	68	69	64	57	72
Possibly would support	20	23	18	20	20	22	17	23	18
Would not support	13	15	12	16	11	9	18	20	9
		(χ <sup>2</sup> = 2.4; n.s.)		(χ <sup>2</sup> = 1.7; n.s.)		(χ <sup>2</sup> = 8.8; p = 0.01)		(χ <sup>2</sup> = 12.3; p < 0.01)	
No vending machine sales									
Definitely would support	68	57	75	61	73	71	64	56	75
Possibly would support	20	26	16	23	18	18	22	25	17
Would not support	12	17	9	16	9	11	14	19	8
		(χ <sup>2</sup> = 15.4; p < 0.01)		(χ <sup>2</sup> = 8.0; p = 0.02)		(χ <sup>2</sup> = 2.0; n.s.)		(χ <sup>2</sup> = 17.9; p < 0.01)	
No sponsoring sport/cultural events									
Definitely would support	48	33	57	42	51	46	49	44	50
Possibly would support	26	31	23	27	26	30	22	26	26
Would not support	26	36	20	31	22	24	29	30	24
		(χ <sup>2</sup> = 23.3; p < 0.01)		(χ <sup>2</sup> = 4.6; n.s.)		(χ <sup>2</sup> = 3.8; n.s.)		(χ <sup>2</sup> = 1.9; n.s.)	
Prevention curricula in schools									
Definitely would support	77	71	81	76	79	77	78	74	79
Possibly would support	18	21	16	18	17	20	14	19	17
Would not support	5	8	3	6	4	2	8	6	4
		(χ <sup>2</sup> = 6.4; p = 0.04)		(χ <sup>2</sup> = 1.6; n.s.)		(χ <sup>2</sup> = 3.9; n.s.)		(χ <sup>2</sup> = 1.7; n.s.)	

†  $\chi^2$  statistic indicates the relationship reported in  $2 \times 3$  tables between predictor variables and expressed support.

port a measure to prohibit tobacco companies from sponsoring sports and cultural events, while only one-third of dentists indicated similar support.

Support for control initiatives also appeared to vary according to type of practice, years in practice, and history of tobacco use. Solo practitioners ( $n = 186$ ), compared to those in group practices ( $n = 195$ ), were less likely, in general, to indicate support for control measures. Group practitioners were more likely to express definite support for a higher sales tax on tobacco products (80% vs 71%, respectively), a ban of tobacco advertising in public places (81% vs 69%), limits on the point of sale of tobacco products (69% vs 53%), and prohibition of vending machine sales (73% vs 61%).

Respondents with 1-14 years in practice, as compared to those with over 15 years, were somewhat more likely to express support for control measures. Significant differences between groups were noted regarding measures to increase tobacco sales tax, ban public advertising of tobacco products, and fines for selling tobacco products to minors.

Respondents who reported never having smoked ( $n = 268$ ) were consistently more likely to express support for control measures

than practitioners who were either current or ex-smokers ( $n = 160$ ). Never smokers were significantly more likely to support policies to limit the point of sale of tobacco (68% vs 52%), fine merchants who sell cigarettes to minors (72% vs 57%), and prohibit sale of tobacco through vending machines (75% vs 56%).

Because physicians and dentists in this study were found to differ according to practice arrangement and years in practice, the associations pertaining to specialty were re-examined when stratified by those control variables. As reported in table 2, observed relationships between specialty and intention to support tobacco control measures were essentially unchanged when data were stratified by either practice arrangement or years in practice. Physicians, as compared to dentists, remained more likely to support proposed control measures regardless of whether they practiced in solo or group arrangements. Similarly, regardless of how long they were in practice, physicians tended to express greater support for control measures than dentists.

When the effects of practice arrangement and years in practice were re-examined controlling for the specialty of respondents, however, the bivariate associations noted in table 1

Table 2 Percentage of respondents expressing intent to support tobacco control policies by specialty, practice arrangement, and years in practice

Proposed control measure	Practice arrangement					Years in practice			
	Total (n = 443)	Solo practice		Group practice		1-14		> 15	
		Dentist (n = 95)	Physician (n = 79)	Dentist (n = 59)	Physician (n = 186)	Dentist (n = 66)	Physician (n = 151)	Dentist (n = 90)	Physician (n = 110)
Higher sales tax									
Definitely would support	77	71	72	73	83	74	84	70	73
Probably would support	16	18	14	24	12	22	11	19	18
Would not support	7	12	6	3	4	5	5	11	8
			$(\chi^2 = 4.8; \text{n.s.})^\dagger$				$(\chi^2 = 4.3; \text{n.s.})$		
Allocate tax for prevention									
Definitely would support	58	44	64	51	64	46	66	48	64
Possibly would support	32	40	29	42	26	43	25	39	29
Would not support	10	16	6	7	9	11	9	14	7
			$(\chi^2 = 13.4; p < 0.01)$				$(\chi^2 = 13.5; p < 0.01)$		
Ban advertising from public areas									
Definitely would support	76	61	78	71	85	65	83	65	82
Possibly would support	14	19	15	22	10	28	13	15	10
Would not support	9	20	6	7	5	8	4	20	8
			$(\chi^2 = 14.7; p < 0.01)$				$(\chi^2 = 17.2; p < 0.01)$		
Limit point of sale									
Definitely would support	62	46	63	60	71	53	72	51	65
Possibly would support	23	28	23	24	20	26	21	27	20
Would not support	14	25	14	16	9	21	7	22	15
			$(\chi^2 = 8.4; p = 0.08)$				$(\chi^2 = 14.6; p < 0.01)$		
Fine those who sell to minors									
Definitely would support	67	57	74	72	67	64	71	61	67
Possibly would support	20	25	13	19	21	29	20	18	16
Would not support	13	18	13	9	12	8	9	21	16
			$(\chi^2 = 6.7; \text{n.s.})$				$(\chi^2 = 3.0; \text{n.s.})$		
No vending machine sales									
Definitely would support	68	50	74	68	75	55	78	58	70
Possibly would support	20	30	14	20	17	24	15	27	17
Would not support	12	20	12	12	8	21	7	15	13
			$(\chi^2 = 12.1; p < 0.01)$				$(\chi^2 = 17.9; p = 0.01)$		
No sponsoring sport/cultural events									
Definitely would support	48	28	59	40	55	22	57	37	23
Possibly would support	26	34	18	28	26	42	25	22	22
Would not support	26	36	22	33	19	36	18	37	23
			$(\chi^2 = 22.2; p < 0.01)$				$(\chi^2 = 27.3; p < 0.01)$		
Prevention curricula in schools									
Definitely would support	77	69	84	75	80	70	80	73	82
Possibly would support	18	21	14	21	16	27	18	16	13
Would not support	5	9	2	4	4	3	2	11	5
			$(\chi^2 = 6.3; \text{n.s.})$				$(\chi^2 = 5.5; \text{n.s.})$		

$^\dagger \chi^2$  statistic reflects the relationship between specialty and expressed support when effects of stratifying variables are controlled.

disappeared (results not shown). Group practitioners were no more likely than solo practitioners to support control measures when controlling for the specialty of respondents. Similarly, differences in attitudes expressed by practitioners with 1-14 years in practice and those with 15 or more years disappeared when the specialty of respondents was taken into account.

Intention to support control policies was associated with self-report of the frequency of smoking prevention counselling in a respondent's practice (table 3). Practitioners who reported "more frequent" counselling of 13- to 15-year-old patients not to smoke (ie, respondents reported "always" or "frequent" counselling) were more likely than respondents who reported "less frequent" counselling (ie, "occasional" or "never" counselling of this age group). For example, 72% of those who more frequently counsel expressed definite support of limiting point of sale of tobacco products compared to 52% of respondents who reported less frequent counselling. Similarly, 78% of those who reported more frequent counselling expressed definite support for prohibiting sale of tobacco through vending machines, whereas such support was expressed by only 55% of practitioners who counsel less frequently. Sizable differences between groups were also noted regarding measures to prohibit tobacco companies from sponsoring sport/cultural events, to increase tobacco sales tax, to

require tax revenues to be spent on tobacco use prevention programmes, and to ban advertising of tobacco in public places. These differences in attitudes according to the reported counselling practices of respondents were not substantially altered by controlling for the specialty, practice arrangement, or years in practice of respondents.

Unfortunately, relatively few respondents matched the generalised support they expressed for tobacco control policy with personal initiatives to promote such policies (see table 4). Approximately one in five of respondents indicated that they avoided the products and investments of tobacco companies. A similar proportion reported that they obtained information or attended programmes on how to counsel patients to avoid tobacco use. The proportions of physicians and dentists who made monetary contributions to prevention programmes, addressed school children on tobacco and health, contacted public officials, wrote editorials, or signed tobacco control petitions were even lower. Four of the seven comparisons between specialists revealed significantly more activity among physicians than dentists.

## Discussion

Counselling young adults not to become smokers and instituting policies to limit their access to tobacco products are critical elements of a comprehensive strategy to achieve a

Table 3 Percentage of respondents expressing intent to support tobacco control policies, by self-reported frequency of tobacco prevention counselling of adolescents by respondents

Proposed control measure	Frequency of counselling	
	Always/frequently (n = 182)	Occasionally/never (n = 219)
Higher sales tax		
Definitely would support	81	73
Probably would support	15	16
Would not support	4	10
	$(\chi^2 = 6.4; p = 0.04)^\dagger$	
Allocate tax for prevention		
Definitely would support	67	48
Probably would support	24	40
Would not support	9	12
	$(\chi^2 = 14.6; p < 0.01)$	
Ban advertising from public areas		
Definitely would support	85	66
Probably would support	9	21
Would not support	6	13
	$(\chi^2 = 19.3; p < 0.01)$	
Limit point of sale		
Definitely would support	72	52
Probably would support	17	29
Would not support	11	52
	$(\chi^2 = 17.9; p < 0.01)$	
Fine those who sell to minors		
Definitely would support	71	61
Probably would support	17	24
Would not support	12	15
	$(\chi^2 = 4.9; p = 0.09)$	
No vending machine sales		
Definitely would support	78	55
Probably would support	14	26
Would not support	8	18
	$(\chi^2 = 24.7; p < 0.01)$	
No sponsoring sport/cultural events		
Definitely would support	57	37
Probably would support	24	29
Would not support	19	34
	$(\chi^2 = 17.6; p < 0.01)$	
Prevention curricula in schools		
Definitely would support	81	72
Probably would support	14	22
Would not support	4	6
	$(\chi^2 = 4.6; p = 0.10)$	

$^\dagger \chi^2$  statistic reflects the association reported in  $2 \times 3$  tables between counselling activity and expressed support.

Table 4 Self-reported activities over previous 12 months to control tobacco, by specialty

Activity	Physicians (%) (n = 105)	Dentists (%) (n = 166)	Total (%) (n = 443)
Made monetary contribution to prevention programmes	8 (z = 2.4; p = 0.02) $^\dagger$	3	6
Avoided products and investments of tobacco companies	25 (z = 2.1; p = 0.04)	16	22
Obtained information or attended programmes on how to counsel patients to avoid tobacco use	27 (z = 3.6; p < 0.01)	12	21
Addressed school children on tobacco and health	16 (z = 2.6; p = 0.01)	7	12
Contacted legislators or other public officials to express support for tobacco control efforts	2 (z = 1.4; n.s.)	0	1
Wrote editorials or commentaries for local newspapers	1 (z = 0.5; n.s.)	1	1
Signed petitions on tobacco control initiatives	4 (z = 0.9; n.s.)	2	3

$^\dagger$  z scores reflect significance of difference in proportions between specialty groups.

smoke-free society.<sup>15</sup> Physicians and dentists who care for adolescent patients are in unique positions to advance these objectives.

This analysis documented considerable support among primary health care providers for enacting further tobacco control policies. The findings suggest, however, that attitudes toward such measures varied to a great extent according to the backgrounds and practices of respondents. Support for control measures was pronounced among physicians while somewhat tempered among dentists. Practitioners who had never smoked and those who reported

that they more frequently counsel adolescent patients not to smoke expressed greater support for control measures than those who had ever smoked and those who did tobacco prevention counselling less frequently.

Despite the good response to the survey, the generalisability of results could not be evaluated. If present, selection bias probably overstated the support and activity of practitioners to control access to tobacco. Additional work to corroborate these results is encouraged.

Initiatives to control access to tobacco should capitalise on potential support that exists among health practitioners. Strategies to reduce the risk of tobacco addiction in young people would be enhanced by encouraging health care providers to be effective change agents in public, as well as clinical, settings. Fortunately, a large menu of options for advancing collective health objectives can be readily identified to suit individual interests and abilities. It is unlikely at the present time, however, that more than a minority of practitioners appreciate, and act upon, that role of public health activist. Principles that ground clinical practice within the broader public health debate need further elaboration within curricula of schools of medicine and dental medicine.<sup>18</sup> Appropriate role models must to be identified and methods for building requisite skills in policy analysis, public discourse, community mobilisation, and the like, need additional refinement.

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